1. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$(-9 - 10i)(-3 - 2i)$$

A. $a \in [44, 52]$ and $b \in [-13, -7]$

B. $a \in [5, 13]$ and $b \in [45, 52]$

C. $a \in [44, 52]$ and $b \in [9, 16]$

D. $a \in [5, 13]$ and $b \in [-48, -41]$

E. $a \in [27, 35]$ and $b \in [14, 25]$

---

2. Choose the **smallest** set of Real numbers that the number below belongs to.

$$-\sqrt{\frac{12}{0}}$$

A. Whole

B. Irrational

C. Not a Real number

D. Integer

E. Rational

---

3. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$(-7 - 4i)(6 - 3i)$$

A. $a \in [-44, -41]$ and $b \in [7, 16]$

B. $a \in [-32, -28]$ and $b \in [42, 49]$

C. $a \in [-57, -52]$ and $b \in [3, 5]$

D. $a \in [-32, -28]$ and $b \in [-47, -40]$

E. $a \in [-57, -52]$ and $b \in [-7, -2]$

4. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$\frac{36 + 33i}{6 - 8i}$$

A. $a \in [4.4, 5.3]$ and $b \in [-1.5, 0.5]$

B. $a \in [-48.35, -47.25]$ and $b \in [4, 6.5]$

C. $a \in [-0.9, 0.45]$ and $b \in [485.5, 486.5]$

D. $a \in [-0.9, 0.45]$ and $b \in [4, 6.5]$

E. $a \in [5.95, 6.45]$ and $b \in [-5, -3]$

5. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$\frac{-9 + 22i}{-3 + 4i}$$

A. $a \in [3.5, 5]$ and $b \in [-2, -1]$

B. $a \in [3.5, 5]$ and $b \in [-30.5, -29]$

C. $a \in [114.5, 115.5]$ and $b \in [-2, -1]$

D. $a \in [2.5, 3.5]$ and $b \in [3.5, 6.5]$

E. $a \in [-3, -2]$ and $b \in [-5.5, -3.5]$

6. Choose the **smallest** set of Complex numbers that the number below belongs to.

$$\sqrt{\frac{0}{49}} + \sqrt{4}i$$

A. Pure Imaginary

B. Nonreal Complex

C. Irrational

D. Rational

E. Not a Complex Number

---

7. Simplify the expression below and choose the interval the simplification is contained within.

$$5 - 16^2 + 19 \div 4 * 11 \div 20$$

A. $[262.9, 263.9]$

B. $[-255.4, -249.1]$

C. $[-249.7, -247.8]$

D. $[259.8, 261.5]$

E. None of the above

---

8. Choose the **smallest** set of Real numbers that the number below belongs to.

$$-\sqrt{\frac{1430}{10}}$$

A. Whole

B. Rational

C. Irrational

D. Integer

E. Not a Real number

---

9. Choose the **smallest** set of Complex numbers that the number below belongs to.

$$\frac{16}{16} + 81i^2$$

A. Rational

B. Not a Complex Number

C. Pure Imaginary

D. Nonreal Complex

E. Irrational

---

10. Simplify the expression below and choose the interval the simplification is contained within.

$$2 - 10 \div 7 * 16 - (14 * 4)$$

A. $[-57.09, -50.09]$

B. $[-78.86, -75.86]$

C. $[49.91, 63.91]$

D. $[-139.43, -138.43]$

E. None of the above

---

11. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$(8 - 4i)(-3 + 2i)$$

A. $a \in [-18, -14]$ and $b \in [25, 37]$

B. $a \in [-38, -31]$ and $b \in [-4, -2]$

C. $a \in [-38, -31]$ and $b \in [3, 5]$

D. $a \in [-18, -14]$ and $b \in [-31, -23]$

E. $a \in [-26, -17]$ and $b \in [-9, -6]$

---

12. Choose the **smallest** set of Real numbers that the number below belongs to.

$$\sqrt{\frac{2145}{11}}$$

A. Rational

B. Whole

C. Irrational

D. Not a Real number

E. Integer

---

13. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$(5 - 4i)(-2 - 7i)$$

A. $a \in [-10, -5]$ and $b \in [27.12, 28.4]$

B. $a \in [17, 23]$ and $b \in [41.94, 43.43]$

C. $a \in [17, 23]$ and $b \in [-45.09, -41.71]$

D. $a \in [-40, -37]$ and $b \in [26.67, 27.02]$

E. $a \in [-40, -37]$ and $b \in [-28.56, -26.7]$

---

14. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$\frac{63 - 55i}{4 - 6i}$$

A. $a \in [14.5, 16.5]$ and $b \in [8.5, 10]$

B. $a \in [-2, -1]$ and $b \in [-13.5, -11]$

C. $a \in [10, 11.5]$ and $b \in [157, 158.5]$

D. $a \in [10, 11.5]$ and $b \in [1.5, 4.5]$

E. $a \in [581.5, 582.5]$ and $b \in [1.5, 4.5]$

---

15. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$\frac{-27 - 11i}{5 + 8i}$$

A. $a \in [-6, -5]$ and $b \in [-2, 0]$

B. $a \in [-3, -1]$ and $b \in [0, 2.5]$

C. $a \in [-1.5, 0]$ and $b \in [-4, -2]$

D. $a \in [-224, -222]$ and $b \in [0, 2.5]$

E. $a \in [-3, -1]$ and $b \in [160, 161.5]$

---

16. Choose the **smallest** set of Complex numbers that the number below belongs to.

$$\frac{\sqrt{119}}{9} + \sqrt{-6}i$$

A. Nonreal Complex

B. Rational

C. Not a Complex Number

D. Pure Imaginary

E. Irrational

---

17. Simplify the expression below and choose the interval the simplification is contained within.

$$13 - 17 \div 14 * 19 - (7 * 12)$$

A. $[-205.86, -201.86]$

B. $[-76.06, -68.06]$

C. $[94.94, 98.94]$

D. $[-100.07, -90.07]$

E. None of the above

---

18. Choose the **smallest** set of Real numbers that the number below belongs to.

$$\sqrt{\frac{15}{0}}$$

A. Whole

B. Rational

C. Irrational

D. Integer

E. Not a Real number

---

19. Choose the **smallest** set of Complex numbers that the number below belongs to.

$$\sqrt{\frac{-2730}{14}} + \sqrt{0}i$$

A. Nonreal Complex

B. Pure Imaginary

C. Rational

D. Irrational

E. Not a Complex Number

---

20. Simplify the expression below and choose the interval the simplification is contained within.

$$12 - 7^2 + 4 \div 10 * 16 \div 2$$

A. $[55.01, 63.01]$

B. $[-38.99, -33.99]$

C. $[63.2, 68.2]$

D. $[-35.8, -29.8]$

E. None of the above

21. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$(2 - 6i)(-8 + 10i)$$

A. $a \in [-80, -70]$ and $b \in [25, 31]$

B. $a \in [36, 45]$ and $b \in [-70, -64]$

C. $a \in [36, 45]$ and $b \in [68, 73]$

D. $a \in [-16, -12]$ and $b \in [-65, -58]$

E. $a \in [-80, -70]$ and $b \in [-28, -23]$

22. Choose the **smallest** set of Real numbers that the number below belongs to.

$$-\sqrt{\frac{3969}{49}}$$

A. Rational

B. Whole

C. Integer

D. Not a Real number

E. Irrational

23. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$(-5 + 7i)(6 - 8i)$$

A. $a \in [-91, -85]$ and $b \in [-3, -1]$

B. $a \in [-38, -26]$ and $b \in [-59, -54]$

C. $a \in [26, 29]$ and $b \in [79, 86]$

D. $a \in [-91, -85]$ and $b \in [2, 5]$

E. $a \in [26, 29]$ and $b \in [-89, -79]$

---

24. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$\frac{-27 + 77i}{8 + 5i}$$

A. $a \in [-5, -3]$ and $b \in [15, 16.5]$

B. $a \in [1, 2.5]$ and $b \in [6, 9.5]$

C. $a \in [1, 2.5]$ and $b \in [750.5, 751.5]$

D. $a \in [-7, -6.5]$ and $b \in [4, 6.5]$

E. $a \in [168.5, 170]$ and $b \in [6, 9.5]$

---

25. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$\frac{72 + 55i}{4 + i}$$

A. $a \in [342.5, 344]$ and $b \in [8, 10.5]$

B. $a \in [20, 21.5]$ and $b \in [8, 10.5]$

C. $a \in [20, 21.5]$ and $b \in [147.5, 149]$

D. $a \in [13, 14.5]$ and $b \in [15.5, 18]$

E. $a \in [17, 18.5]$ and $b \in [54.5, 56]$

---

26. Choose the **smallest** set of Complex numbers that the number below belongs to.

$$\sqrt{\frac{81}{0}} + \sqrt{90}i$$

A. Pure Imaginary

B. Nonreal Complex

C. Rational

D. Irrational

E. Not a Complex Number

---

27. Simplify the expression below and choose the interval the simplification is contained within.

$$8 - 10 \div 20 * 13 - (6 * 7)$$

A. $[-31.9, -28.9]$

B. $[47, 50.8]$

C. $[-42.5, -38.3]$

D. $[-38.4, -32.8]$

E. None of the above

---

28. Choose the **smallest** set of Real numbers that the number below belongs to.

$$-\sqrt{\frac{78400}{400}}$$

A. Integer

B. Whole

C. Irrational

D. Not a Real number

E. Rational

---

29. Choose the **smallest** set of Complex numbers that the number below belongs to.

$$\sqrt{\frac{0}{361}} + \sqrt{5}i$$

A. Rational

B. Nonreal Complex

C. Not a Complex Number

D. Pure Imaginary

E. Irrational

---

30. Simplify the expression below and choose the interval the simplification is contained within.

$$4 - 6 \div 1 * 16 - (8 * 11)$$

A. $[-181, -178]$

B. $[-1101, -1097]$

C. $[87.62, 99.62]$

D. $[-86.38, -83.38]$

E. None of the above
